

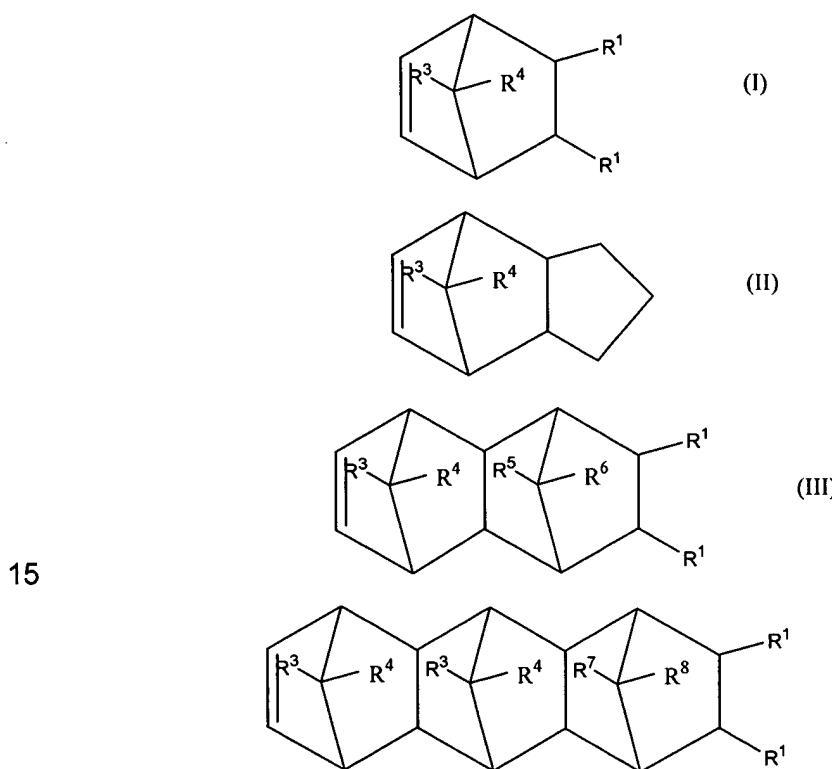
WHAT IS CLAIMED IS:

1. A heat-sealable film suitable for heat sealing at low temperatures comprising at least one layer consisting essentially of a cycloolefin copolymer (COC), wherein the COC has a Tg of from about 30 to about 55°C.

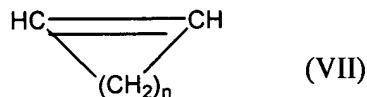
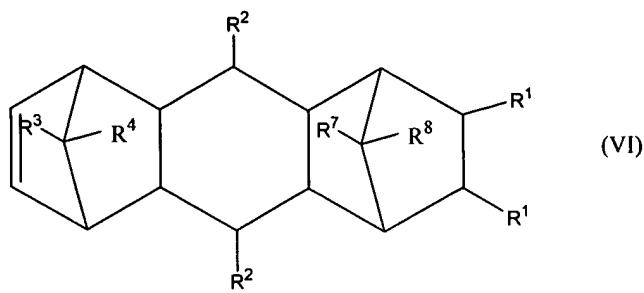
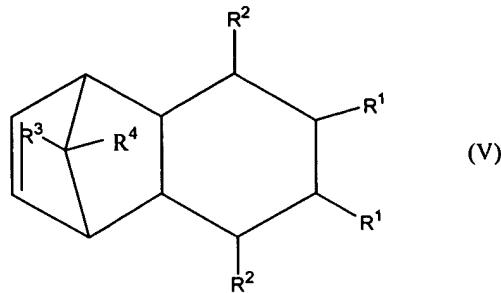
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2. The film as claimed in Claim 1, wherein the COC is a copolymer comprising a cycloolefin monomer and an acyclic olefin.

3. The film as claimed in Claim 2, wherein the cycloolefin monomer has (i) the polycyclic structure of formula I, II, III, IV, V or VI, or (ii) the monocyclic structure of the formula VII:



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- 5 wherein R¹, R², R³, R⁴, R⁵, R⁶, R⁷ and R⁸ are the same or different and are H, a
 C₆-C₂₀ -aryl or C₁ -C₂₀ -alkyl radical or a halogen atom, and n is a number
 from 2 to 10.
- 10 4. The film as claimed in Claim 3, wherein the cycloolefin monomer is selected
 from the group consisting of norbornene, cyclopentene, dimethyloctahydro-
 naphthalene, poly(5-methyl)norbornene and mixtures thereof.
- 15 5. The film as claimed in Claim 4, wherein the cycloolefin monomer is
 norbornene.
- 20 6. The film as claimed in Claim 2, wherein the acyclic olefin is selected from
 the group consisting of ethylene, propylene, butylene and mixtures thereof.
7. The film of Claim 2, wherein the COC is a copolymer of norbornene and
 ethylene.

8. The film of Claim 1, additionally comprising at least one layer comprising a thermoplastic polymer laminated to the at least one layer consisting essentially of the COC.
- 5 9. The film of Claim 8, wherein the at least one thermoplastic polymer layer and the at least one layer consisting essentially of COC are formed by coextrusion.
- 10 10. The film of Claim 9, wherein the coextrusion is performed using a flat-film die.
11. The film of claim 9, wherein the coextrusion is performed by a blown film process.
12. The film of Caim 8, wherein the at least one thermoplastic polymer layer and the at least one layer consisting essentially of COC are laminated by adhesive bonding.
- 15 13. The film of Claim 8, wherein the at least one thermoplastic polymer is selected from the group consisting of polyester, polycarbonate, polyolefin, polyacrylate, polyestercarbonate, polyamide, polyketone, polyether, polyvinyl, cyclic olefin homopolymer and cyclic olefin copolymer, wherein the at least one thermoplastic layer has a Tg greater than that of the at least one layer consisting essentially of COC.
- 20 14. The film of Claim 13, wherein the thermoplastic is a polyester, polypropylene, polyethylene or nylon.
- 25 15. The film of Claim 14, wherein the thermoplastic is selected from the group consisting of polyethylene terephthalate and polybutylene terephthalate.

16. The film of Claim 8, wherein the laminate is further heat sealed to another layer via the heat sealable COC polymer layer.
17. A heat sealed package comprising a film of Claim 8.
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18. The package according to Claim 17, wherein the heat seal is effected at a sealing temperature of from about 50 to about 80°C.
19. The film according to Claim 1, wherein the film exhibits a maximum hot tack strength value at a heat sealing temperature below about 75°C and exhibits a hot tack strength value of at least about 10% of that maximum value at heat sealing temperatures of from about 90°C to about 150°C.
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20. The film according to Claim 1, wherein the film exhibits a maximum hot tack strength value at a heat sealing temperature below about 75°C and exhibits a hot tack strength value of at least about 20% of that maximum value at heat sealing temperatures of from about 90°C to about 150°C.
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21. The film according to Claim 1, wherein the film exhibits a maximum hot tack strength value at a heat sealing temperature below about 75°C and exhibits a hot tack strength value of at least about 30% of that maximum value at heat sealing temperatures of from about 90°C to about 150°C.
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22. The film according to Claim 1, wherein the film exhibits a maximum ultimate strength value at a heat sealing temperature below about 90°C and exhibits an ultimate strength value of at least about 25% of that maximum value at heat sealing temperatures of from about 100°C to about 150°C.
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23. The film according to Claim 1, wherein the film exhibits a maximum ultimate strength value at a heat sealing temperature below about 90°C and exhibits an
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ultimate strength value of at least about 50% of that maximum value at heat sealing temperatures of from about 100°C to about 150°C.

24. A method of sealing a heat sealed package comprising providing a film of

5 Claim 1 and heat bonding the film to another layer at a heat seal temperature of from about 50°C to about 80°C.

25. A method of heat sealing comprising:

10 (a) providing a first film having at least one layer consisting essentially of a COC, wherein the COC has a Tg of from about 30 to about 55°C;

15 (b) providing a second film having at least one layer consisting essentially of a COC, wherein the COC has a Tg of from about 30 to about 55°C; and

(c) heat-sealing the first and second films together wherein the sealing temperature is from about 50 to about 80°C.

20 26. A heat sealable film consisting essentially of a film forming norbornene-/ethylene copolymer having a Tg of from about 30°C to about 55°C, a film of the film forming copolymer exhibiting a hot tack strength of greater than 10N when tested at a heat seal temperature below about 75°C at a seal pressure of 44 psi, a seal time of 1 second, a cooling time of 0.1 second, a film sample width of 1 inch and a film sample thickness of 2 mil, wherein the peel speed is 200 mm/s.

27. A heat sealable film consisting essentially of a film forming norbornene-/ethylene copolymer having a Tg of from about 30C to about 55C, a film of the 30 film forming copolymer exhibiting a hot tack strength of greater than 10N when tested at a heat seal temperature below about 75°C at a seal pressure of

- 44 psi, a seal time of 1 second, a cooling time of 0.1 second, a film sample width of 1 inch and a film sample thickness of 2 mil, wherein the peel speed is 200 mm/s, wherein further a film of the film forming copolymer exhibits a hot tack strength of greater than about 5N at all heat seal temperatures
- 5 between about 75°C and 150°C at a seal pressure of 44 psi, a seal time of 1 second, a cooling time of 0.1 second, a film sample width of 1 inch and a film sample thickness of 2 mil, wherein the peel speed is 200 mm/s.
28. A heat sealable film consisting essentially of a film forming norbornene/-
10 ethylene copolymer having a Tg of from about 30°C to about 55°C, a film of the film forming copolymer exhibiting an ultimate seal strength of greater than 10N when tested at a heat seal temperature below about 90°C at a seal pressure of 44 psi, a seal time of 1 second, a cooling time of 30 seconds, a film sample width of 1 inch and a film sample thickness of 2 mil, wherein the peel
15 speed is 200 mm/s.
29. A heat sealable film consisting essentially of a film forming norbornene/-
10 ethylene copolymer having a Tg of from about 30°C to about 55°C, a film of the film forming copolymer exhibiting an ultimate seal strength of greater than 10N when tested at a heat seal temperature below about 90°C at a seal pressure of 44 psi, a seal time of 1 second, a cooling time of 30 seconds, a film sample width of 1 inch and a film sample thickness of 2 mil, wherein the peel
20 speed is 200 mm/s, wherein further a film of the film forming copolymer exhibits an ultimate seal strength of greater than about 20N at all heat seal temperatures between about 90°C and 150°C at a seal pressure of 44 psi, a seal time of 1 second, a cooling time of 0.1 second, a film sample width of 1 inch and a film sample thickness of 2 mil, wherein the peel speed is 200 mm/s.
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30. A cycloolefin copolymer consisting of norbornene and ethylene, wherein the cycloolefin copolymer has a Tg of from about 30 to about 55°C and wherein the norbornene is present in an amount of from about 24 to about 30 mole

percent and wherein the ethylene is present in an amount of from about 76 to about 70 mole percent.